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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,905	09/11/2003	John G. McDonough	TI-34763	4192

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TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,905	MCDONOUGH ET AL.	
	Examiner	Art Unit	
	Erin M. File	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-17, 19-27, 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gerhards et al. (U.S. Pub. No. 2003/0012312).

Claim 1, Gerhards discloses:

- a set of search parameters are given ([0007], line 12);
- generating a group of hypotheses from the set of search parameters ([0007], lines 9-12);
- assigning each hypothesis from the group to a correlator and correlating a pseudo-random number (PN) sequence generated from each hypothesis against a received sequence (Gerhards discloses searching for a predefined code, or hypothesis, in a bitstream by correlating it plurality of reference codes in lines 1-8 of [0007], further in [0043] Gerhards discloses each correlator receives the same I and Q component bit streams 18 and

20 and further receives I and Q components of a reference bit stream which are labeled as I PN and Q PN 28 and 30, respectively);

- accumulating the correlation result (Gerhards discloses the results are stored in buffer 64, [0044], line 24);
- processing the accumulation result (see fig. 1, after search is complete line 54 is sent to processor circuit 76).

Claim 2, Gerhards further discloses the set of search parameters is stored in a record memory ([0060]).

Claims 3, 11, Gerhards discloses that a plurality of sets of search parameters stored in an indexed memory, an index will inherently contain a indices, or reference number ([0060]).

Claim 4, Gerhards further discloses a result memory, and wherein results from the processing are stored in the result memory with the same reference number as the set of search parameters ([0048], Gerhards discloses indexing the search parameters and results in an indexed memory).

Claim 5, Gerhards further discloses determining availability of storage space; and writing the set of search parameters by a control unit if storage space is available (the dual dwell flag indicates if storage space is available, [0048]).

Claim 6, Gerhards further discloses repeating the determining and the writing until storage space is no longer available or all sets of search parameters have been written (the process described in [0048] indicates whether this is enabled by the dual dwelling flag).

Claim 7, Gerhards further discloses assigning each hypothesis from the group to

a correlator if there are as many idle correlators as there are hypotheses in the group and assigning as many hypotheses as there are idle correlators, wherein each hypothesis is assigned to a correlator, if there are fewer idle correlators than hypotheses ([0046).

Claim 8, Gerhards further discloses a plurality of sets of search parameters, and wherein the assigning comprises: determining if there are a sufficient number of correlators ([0048]); and repeating the reading, generating, and assigning with a different set of search parameters if there is an insufficient number of correlators ([0048]).

Claim 9, Gerhards further discloses repeating the reading, generating, and assigning as long as there are idle correlators ([0048]).

Claim 10, Gerhards further discloses storing the results from the processing ([0060]).

Claim 12, Gerhards further discloses the set of search parameters specifies a single hypothesis, and wherein the group of hypotheses contains the single hypothesis.

Claim 13,

- a memory to store sets of search parameters and search results, wherein each set of search parameters is assigned a reference number (Gerhards discloses that a plurality of sets of search parameters stored in an indexed memory, an index will inherently contain a indices, or reference number, see [0060])

- a set of search results for a set of search parameters is stored with the same reference number ([0060]);
- a searcher coupled to the memory, the searcher containing circuitry to read a set of search parameters from the memory, process pseudo-random number (PN) sequences generated based the set of search parameters with a received sequence (Gerhards discloses searching for a predefined code, or hypothesis, in a bitstream by correlating it plurality of reference codes in lines 1-8 of [0007], further in [0043] Gerhards discloses each correlator receives the same I and Q component bit streams 18 and 20 and further receives I and Q components of a reference bit stream which are labeled as I PN and Q PN 28 and 30, respectively)
- write the correlation results to a set of search results with the reference number of the set of search parameters ([0061]);
- a sequence generator coupled to the searcher, the sequence generator containing circuitry to generate a PN sequence from each hypothesis provided to it by the searcher ([0043]).

Claims 14, 21, Gerhards further discloses the memory further comprises a common parameter storage space to store search parameters common to each set of search parameters currently in the memory; and a common result storage space to store search results common to each search result currently in the memory ([0058]).

Claim 15, Gerhards further discloses a hypothesis generator coupled to the memory and the search engine, the hypothesis generator containing circuitry to

generate hypotheses from the set of search parameters and from a timing reference provided by the searcher ([0007); and a result processor coupled to the search engine and the memory, the result processor containing circuitry to compare the set of search results against a specified threshold ([0062]).

Claim 16, Gerhards further discloses the searcher comprises a plurality of correlators to correlate a received sequence with each of the generated PN sequences ([0043], Gerhards discloses each correlator receives the same I and Q component bit streams 18 and 20 and further receives I and Q components of a reference bit stream which are labeled as I PN and Q PN 28 and 30, respectively); a control memory to store control information for use in the processing of the generated PN sequences ([0049]); and a scratch memory to store temporary results during the processing ([0049]).

Claim 17, Gerhards further discloses the control memory and the scratch memory are partitioned into a plurality of storage spaces, and wherein there is a control memory storage space and a scratch memory storage space for each correlator ([0058]).

Claim 19, Gerhards discloses:

- an analog front end coupled to an antenna, the analog front end containing circuitry to filter and amplify a received signal provided by the antenna [0006];
- an analog-to-digital converter (ADC), the ADC to convert an analog signal provided by the analog front end into a digital symbol stream ([0010], lines 3-4);

- a processing unit coupled to the ADC, the processing unit containing circuitry to store sets of search parameters and search results, test hypotheses derived from the sets of search parameters ([0007]).

Claim 20, wherein the processing unit comprises:

- a memory to store sets of search parameters and search results, wherein each set of search parameters is assigned a reference number, and a set of search results for a set of search parameters is stored with the same reference number (Gerhards discloses that a plurality of sets of search parameters stored in an indexed memory, an index will inherently contain a indices, or reference number, see [0060]);
- a controller coupled to the memory, the controller to write sets of search parameters to the memory and retrieve sets of search results from the memory ([0046]);
- a searcher coupled to the memory and the controller, the searcher containing circuitry to read a set of search parameters from the memory, create hypotheses from the set of search parameters, correlate the hypotheses with a received sequence, and write the correlation results to a set of search results with the reference number of the set of search parameters ([0007]).

Claim 22, Gerhards further discloses the searcher comprises a plurality of correlators, wherein a set of search parameters can result in a plurality of hypotheses, and wherein each hypothesis from the plurality of hypotheses is assigned to a unique correlator ([0007]).

Claim 23, each assigned correlator correlates a pseudo-random number (PN) sequence generated from its hypothesis with a received sequence ([0043], Gerhards discloses each correlator receives the same I and Q component bit streams 18 and 20 and further receives I and Q components of a reference bit stream which are labeled as I PN and Q PN 28 and 30, respectively).

Claim 24, Gerhards further discloses each assigned correlator correlates with the same received sequence ([0042], [0043]).

Claim 25, Gerhards further discloses the controller also specifies when the searcher may assert an interrupt to notify the controller that the searcher has completed processing an assigned search ([0058]).

Claim 26, Gerhards further discloses the wireless device operates in a digital communications network ([0002], line 2).

Claim 27, Gerhards further discloses wherein the digital communications network is a direct sequence spread spectrum communications network ([0033], lines 1-4).

Claim 30, Gerhards further discloses the wireless device is capable of operating in a plurality of digital communications networks ([0004].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 18, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerhards et al. (U.S. Pub. No. 2003/0012312).

Claim 18, the memory can store eight (8) sets of search parameters, eight (8) sets of search results, and wherein the searcher has 256 correlators. Gerhards does not disclose expressly the memory can store eight (8) sets of search parameters, eight (8) sets of search results, and wherein the searcher has 256 correlators. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to store eight sets of parameters and use 256 instead of 32 correlators as disclosed ([0043]). Applicant has not disclosed that a memory that can store eight (8) sets of search parameters, eight (8) sets of search results, and wherein the searcher has 256 correlators provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other values of sets of parameters stored or different numbers of correlators. Therefore, it would have been obvious to one of ordinary skill in this art to modify Gerhards to obtain the invention as specified in claim 18.

Claim 28, Gerhards discloses the claimed invention except for disclosing CDMA, and not specifically CDMA2000 ([0004]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to (modification) since the examiner takes Official Notice of the equivalence of CDMA and CDMA2000 for their use in the communications art and the selection

of any of these known equivalents to transmit and receive radio signals would be within the level of ordinary skill in the art.

Claim 29, Gerhards discloses the claimed invention except for disclosing CDMA, and not specifically UMTS (UMTS is a version of WCDMA, see [0004] for CDMA). It would have been obvious to one having ordinary skill in the art at the time the invention was made to (modification) since the examiner takes Official Notice of the equivalence of CDMA and UMTS for their use in the communications art and the selection of any of these known equivalents to transmit and receive radio signals would be within the level of ordinary skill in the art.

Claim Objections

5. Claim 28 is objected to because of the following informalities: In Claim 28 the acronym CDMA should be properly defined. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EMF

9/27/2006

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER